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L3: Entry 1 of 5

File: USPT

09/128 354

US-PAT-NO: 6337200

DOCUMENT-IDENTIFIER: US 6337200 B1

TITLE: Human telomerase catalytic subunit variants

DATE-ISSUED: January 8, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Morin; Gregg B.	Palo Alto	CA		

US-CL-CURRENT: 435/194, 435/320.1, 435/325, 435/440, 435/455, 435/69.1, 435/70.1,  
514/44, 530/350, 536/23.1, 536/23.5

## CLAIMS:

What is claimed is:

1. A polynucleotide encoding a variant of human telomerase reverse transcriptase (hTRT), said variant having processive catalytic activity and comprising a deletion of at least 10 amino acids from region 192-323 or 415-450 of SEQ. ID NO:2.

2. The polynucleotide of claim 1, wherein the variant comprises a deletion of at least 25 amino acids from region 192-323 or 415-450 of SEQ. ID NO:2.

3. The polynucleotide of claim 1, further comprising a promoter sequence operably linked to the nucleotide sequence encoding the hTRT variant.

4. The polynucleotide of claim 1 that has a deletion of at least one region encoding exactly amino acids 192-323, 200-323, 200-271, 222-240, or 415-450 of SEQ. ID NO:2.

5. The polynucleotide of claim 1 that does not comprise a deletion in the region encoding amino acids 415-450.

6. The polynucleotide of claim 5, further comprising a promoter sequence operably linked to the nucleotide sequence encoding the hTRT variant.

7. A method for increasing the proliferative capacity of a human cell in vitro, comprising expressing the polynucleotide of claim 6 in the cell, thereby increasing its proliferative capacity.

8. A method for increasing the proliferative capacity of a human cell in vitro, comprising expressing the polynucleotide of claim 3 in the cell, thereby increasing its proliferative capacity.

9. A method for producing a variant telomerase reverse transcriptase, comprising expressing the polynucleotide of claim 1 in a host cell or in a cell-free expression system.

10. A cell comprising the polynucleotide of claim 1.

11. The cell of claim 10, that is a human cell.

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L3: Entry 2 of 5

File: USPT

US-PAT-NO: 6309867

DOCUMENT-IDENTIFIER: US 6309867 B1

TITLE: Telomerase

DATE-ISSUED: October 30, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cech; Thomas R.	Boulder	CO		
Nakamura; Toru	Boulder	CO		

US-CL-CURRENT: 435/194

## CLAIMS:

We claim:

1. An isolated polypeptide consisting of the amino acid sequence shown in SEQ. ID. NO. 69.

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L3: Entry 3 of 5

File: USPT

US-PAT-NO: 6261836  
DOCUMENT-IDENTIFIER: US 6261836 B1

08/854050

TITLE: Telomerase

DATE-ISSUED: July 17, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cech; Thomas R.	Boulder	CO		
Lingner; Joachim	Epalinges			CH
Nakamura; Toru	Boulder	CO		
Chapman; Karen B.	Sausalito	CA		
Morin; Gregg B.	Palo Alto	CA		
Harley; Calvin B.	Palo Alto	CA		
Andrews; William H.	Richmond	CA		

US-CL-CURRENT: 435/325; 435/320.1, 435/7.1, 435/7.2, 514/2, 530/324, 530/350,  
536/23.2, 536/23.5

## CLAIMS:

We claim:

1. A synthetic or recombinant human telomerase reverse transcriptase (hTRT) protein, or a variant thereof, or a fragment thereof, wherein said variant is encoded by a polynucleotide that hybridizes under stringent conditions to a polynucleotide having a sequence complementary to SEQ ID NO: 224, and wherein said hTRT protein, variant, or fragment has telomerase catalytic activity when complexed with a telomerase RNA.
2. A composition comprising the hTRT protein of claim 1, and further comprising an RNA, wherein the hTRT protein and the RNA form a telomerase ribonucleic acid complex.
3. An isolated, synthetic, substantially pure, or recombinant polynucleotide comprising a nucleic acid sequence that encodes the hTRT protein, variant or fragment of claim 1, or the complement of said nucleic acid sequence.
4. The polynucleotide of claim 1, comprising a promoter sequence operably linked to the sequence encoding the hTRT protein.
5. A isolated cell comprising the recombinant polynucleotide of claim 3.
6. A cell of claim 5 that is a eukaryotic cell.
7. An isolated, synthetic, substantially pure, or recombinant polynucleotide encoding a full-length naturally occurring human telomerase reverse transcriptase (hTRT) protein, said protein having 1132 amino acid residues.
8. An isolated, synthetic, substantially pure, or recombinant polynucleotide

encoding a full-length naturally occurring human telomerase reverse transcriptase (hTRT) protein, said protein having 1132 amino acid residues, wherein said polynucleotide comprises the hTRT protein encoding sequence of bases 56 to 3451 of Seq. ID. No. 224 (FIG. 53).

9. The polynucleotide of claim 3, wherein the encoded protein has 1132 amino acid residues.

10. The polynucleotide of claim 9, wherein said polynucleotide comprises an encoding region of bases 56-3451 of SEQ ID NO: 224.

11. A method of preparing recombinant telomerase, said method comprising contacting the recombinant hTRT protein of claim 1 with a telomerase RNA component under conditions such that said recombinant protein and said telomerase RNA component associate to form a telomerase enzyme capable of catalyzing the addition of nucleotides to a telomerase substrate.

12. The method of claim 11, wherein said contacting occurs in a cell which has been engineered to express recombinant hTRT.

**WEST****End of Result Set**  

L3: Entry 5 of 5

File: USPT

US-PAT-NO: 6093809

DOCUMENT-IDENTIFIER: US 6093809 A

TITLE: Telomerase

DATE-ISSUED: July 25, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cech; Thomas R.	Boulder	CO		
Lingner; Joachim	Epalinges			CH

US-CL-CURRENT: 536/23.5; 530/324, 536/23.2

## CLAIMS:

What is claimed is:

1. An isolated polynucleotide consisting of the nucleic acid sequence shown in SEQ. ID. No. 1.

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L3: Entry 4 of 5

File: USPT

US-PAT-NO: 6166178

DOCUMENT-IDENTIFIER: US 6166178 A

TITLE: Telomerase catalytic subunit

DATE-ISSUED: December 26, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cech; Thomas R.	Boulder	CO		
Lingner; Joachim	Boulder	CO		

US-CL-CURRENT: 530/324; 530/827, 530/828, 536/23.2, 536/23.5

## CLAIMS:

What is claimed is:

1. An isolated polypeptide consisting of the amino acid sequence shown in SEQ. ID. NO. 110.